

Publications of George S. Hammond

1. Bartlett, P. D.; Hammond, G. S.; Kwart, H. "The Inhibition and Retardation by Certain Quinones of the Peroxide-Induced Polymerization of Allyl Acetate and Vinyl Acetate" *Discuss. Faraday Soc.* **1947**, 2, 342.
2. Hammond, G. S.; Shine, H. J. "The Mechanism of the Benzidine Rearrangement. I. The Effect of Acid Concentration on Rate" *J. Am. Chem. Soc.* **1950**, 72, 220.
3. Hammond, G. S.; Rudesill, J. T. "The Solvolysis of Triphenylmethyl Benzoate" *J. Am. Chem. Soc.* **1950**, 72, 2769.
4. Hammond, G. S. "The Decomposition of Benzoyl Peroxide in the Presence of Iodine. I. Aromatic Solvents" *J. Am. Chem. Soc.* **1950**, 72, 373.
5. Hammond, G. S.; Soffer, L. M. "The Decomposition of Benzoyl Peroxide in the Presence of Iodine. II. In Carbon Tetrachloride" *J. Am. Chem. Soc.* **1950**, 72, 4711.
6. Hammond, G. S.; Bartlett, P. D. "The Polymerization of Allyl Compounds. V. Inhibition by Nitro Compounds" *J. Polym. Sci.* **1951**, 6, 617.
7. Hammond, G. S.; Rudesill, J. T.; Modic, F. J. "Aromatic Substitution by Free Radicals. I. The Cleavage of Benzoyl Peroxide by Triphenylmethyl" *J. Am. Chem. Soc.* **1951**, 73, 3929.
8. Gilman, H.; Dunn, G. E.; Hammond, G. S. "An Unusual Isotope Effect" *J. Am. Chem. Soc.* **1951**, 73, 4499.
9. Hammond, G. S.; Ravve, A. "The Reaction of Triphenylmethyl with Nitrobenzene" *J. Am. Chem. Soc.* **1951**, 73, 1891.
10. Hammond, G. S.; Modic, F. J.; Ravve, A. "The Determination of Hexaphenylethane" *Anal. Chem.* **1952**, 24, 1373.
11. Hammond, G. S.; Schultz, F. S. "Di- and Tri-Furoyl Methane" *J. Am. Chem. Soc.* **1952**, 74, 329.
12. Hammond, G. S.; Cohen, M. D. "The Mechanism of the Benzidine Rearrangement. II. General Acid Catalysis" *J. Am. Chem. Soc.* **1953**, 75, 880.
13. Hammond, G. S.; Modic, F. J. "Aromatic Nitration. I. The Ultraviolet Spectra of Aromatic Nitro Compounds in Sulfuric Acid" *J. Am. Chem. Soc.* **1953**, 75, 1385.
14. Hammond, G. S.; Modic, F. J.; Hedges, R. M. "Aromatic Nitration. II. Influence of Solvent on Anomalous Orientation by the Nitro Group" *J. Am. Chem. Soc.* **1953**, 75, 1388.
15. Kochi, J. K.; Hammond, G. S. "Benzyl Tosylates. I. Preparation and Properties" *J. Am. Chem. Soc.* **1953**, 75, 3443.
16. Kochi, J. K.; Hammond, G. S. "Benzyl Tosylates. II. The Application of the Hammett Equation to the Rates of their Solvolysis" *J. Am. Chem. Soc.* **1953**, 75, 3445.
17. Kochi, J. K.; Hammond, G. S. "Benzyl Tosylates. III. The Relative Conjugative Aptitudes of Acetylenic and Ethylenic Bonds" *J. Am. Chem. Soc.* **1953**, 75, 3452.
18. Cohen, M. D.; Hammond, G. S. "Some Thermodynamic Aspects of Reaction Kinetics" *J. Chem. Educ.* **1953**, 30, 180.
19. Hammond, G. S.; Nevitt, T. D. "The Stereochemistry of the Addition of Hydrogen Bromide to 1,2-Dimethylcyclohexene" *J. Am. Chem. Soc.* **1954**, 76, 4121.
20. Nevitt, T. D.; Hammond, G. S. "Elimination Reactions from the 1,2-Dimethylcyclohexyl System" *J. Am. Chem. Soc.* **1954**, 76, 4121.
21. Hammond, G. S.; Todd, R. W. "The Low Reactivity of Cyclopropane Derivatives Toward Free Radicals" *J. Am. Chem. Soc.* **1954**, 76, 4081.
22. Boozer, C. E.; Hammond, G. S. "Molecular Complex Formation in Free Radical Reactions" *J. Am. Chem. Soc.* **1954**, 76, 3861.
23. Hammond, G. S. "A Correlation of Reaction Rates. Hammond Postulate" *J. Am. Chem. Soc.* **1955**, 77, 334.
24. Hammond, G. S.; Parks, L. R. "The Displacement of Halogen from 1-X-2, 4-Dinitrobenzenes" *J. Am. Chem. Soc.* **1955**, 77, 340.
25. Hawthorne, M. F.; Hammond, G. S.; Graybill, B. M. "The Nucleophilicity of the Cyanide Ion" *J. Am. Chem. Soc.* **1955**, 77, 486.
26. Hammond, G. S.; Lucas, G. B. "The Reaction of Chloroanil with the Decomposition Products from Azonitriles" *J. Am. Chem. Soc.* **1955**, 77, 3249.
27. Hammond, G. S.; Sen, J. N.; Boozer, C. E. "The Efficiency of Radical Production from Azo-bis-isobutyronitrile" *J. Am. Chem. Soc.* **1955**, 77, 3244.
28. Boozer, C. E.; Hammond, G. S.; Hamilton, C. E.; Sen, J. N. "Air Oxidation of Hydrocarbons. II. Stoichiometry and Fate of Inhibitors in Benzene and Chlorobenzene" *J. Am. Chem. Soc.* **1955**, 77, 3233.
29. Hammond, G. S.; Boozer, C. E.; Hamilton, C. E.; Sen, J. N. "Air Oxidation of Hydrocarbons. III. Mechanism of Inhibitor Action in Benzene and Chlorobenzene Solutions" *J. Am. Chem. Soc.* **1955**, 77, 3238.
30. Boozer, C. E.; Hammond, G. S.; Hamilton, C. E.; Peterson, C. "Air Oxidation of Hydrocarbons. IV. The Effects of Varying Solvent and the Mechanism of Uninhibited Chain of Termination" *J. Am. Chem. Soc.* **1955**, 77, 3380.
31. Hammond, G. S.; Hogle, D. H. "The Dissociation of Sterically Hindered Acids" *J. Am. Chem. Soc.* **1955**, 77, 338.
32. Hammond, G. S.; Grundemeier, W. "The Mechanism of the Benzidine Rearrangement. III. The Rearrangement of *p,p'*-Dideuteriohydrazobenzene" *J. Am. Chem. Soc.* **1955**, 77, 2444.
33. Hawthorne, M. F.; Hammond, G. S. "The Oxygenation of the Tri-(*p*-nitrophenyl) methide Ion. A Novel Oxidation–Reduction Reaction" *J. Am. Chem. Soc.* **1955**, 77, 2549.
34. Parks, L. R.; Hammond, G. S.; Hawthorne, M. F. "Substituent Effects on the Reactions of Benzoate Ions with 2,4-Dinitrochlorobenzene and Methyl Iodide" *J. Am. Chem. Soc.* **1955**, 77, 2903.
35. Borduin, W. G.; Hammond, G. S.; "Substituent Effects on the Spectra and Ionization Constants of Diaroylmethanes"; Report No. ISC-517 from the Ames Laboratory of the Atomic Energy Commission **1955**.
36. Guter, G. A.; Hammond, G. S.; "Steric Effects on the Formation Constant of Metal Chelates of β -Diketones"; Report No. ISC-673 from the Ames Laboratory of the Atomic Energy Commission **1955**.

37. Hermans, P. H.; Hammond, G. S. "Review of Introduction to Theoretical Organic Chemistry" *J. Am. Chem. Soc.* **1955**, *77*, 6087.
38. Hammond, G. S. "Steric Effects on Systems at Equilibrium" Chapter in "Steric Effects in Organic Chemistry", M.S. Newman, Editor, John Wiley and Sons, Inc., **1956**.
39. Hammond, G. S.; Hawthorne, M. F. "Steric Effects in Aromatic Substitution" Chapter in "Steric Effects in Organic Chemistry", M. S. Newman, Editor, John Wiley and Sons, Inc. **1956**.
40. Guter, G. A.; Hammond, G. S. "The Separation of Lithium from Other Alkali Metal Ions" *J. Am. Chem. Soc.* **1956**, *78*, 166.
41. Brynko, G. E.; Dunn, H. G.; Hammond, G. S. "Isotope Effect in the Hydrolysis of Triphenylsilane-d" *J. Am. Chem. Soc.* **1956**, *78*, 4909.
42. Fritz, J. S.; Hammond, G. S. "Quantitative Organic Analysis"; John Wiley and Sons, Inc., New York, **1957**.
43. Curtice, J.; Gilman, H.; Hammond, G. S. "A Study of Organosilicon Free Radicals" *J. Am. Chem. Soc.* **1957**, *79*, 4754.
44. Roberts, J. D.; Hammond, G. S.; Cram, D. J. "Organic Reaction Mechanisms". "Annual Reviews of Physical Chemistry for the Year 1956" *Annual Reviews Inc.* **1957**, *8*, 299–330.
45. Borduin, W. G.; Hammond, G. S. "Substituent Effects on the Stability of Metal Chelates"; Report No. ISC-946 from the Ames Laboratory of the Atomic Energy Commission **1957**.
46. Borduin, W. G.; Hammond, G. S. "Further Relationships in the Grunwald Treatment of Acid–Base Equilibria in Hydroxylic Solvents"; Report No. ISC-1045 from the Ames Laboratory of the Atomic Energy Commission **1957**.
47. Fang, F. T.; Kochi, J. K. Hammond, G. S. "Benzyl Tosylates. IV. Halogen Substituent Effects" *J. Am. Chem. Soc.* **1958**, *80*, 563.
48. Hammond, G. S.; Reeder, C. E.; Fang, F. T.; Kochi, J. K. "The Solvolysis of Benzyl Tosylates. V. Some Solvent Effects" *J. Am. Chem. Soc.* **1958**, *80*, 568.
49. Hammond, G. S.; Reeder, C. E. "Benzyl Tosylates. VI. The Effects of Phenyl as a Substituent" *J. Am. Chem. Soc.* **1958**, *80*, 573.
50. Garst, J. F.; Hammond, G. S. "Decomposition of Phenylazotriphenylmethane in the Presence of Triphenylmethyl" *J. Org. Chem.* **1958**, *23*, 98.
51. Hammond, G. S. "Review of Free Radicals in Solution" by Cheves Walling, Record of Chemical Progress, 19, No. 3, **1958**.
52. Trapp, O. D.; Hammond, G. S. "The Decomposition of α,α' -Azoisobutyronitrile in Liquid Bromine" *J. Am. Chem. Soc.* **1959**, *81*, 4876.
53. Hammond, G. S.; Trapp, O. D.; Keys, R. T.; Neff, D. L. "Isolation and Study of the Intermediate [Dimethyl-N-(2-cyano-2-propyl)-ketenimine] Formed in the Decomposition of α,α' -Azoisobutyronitrile" *J. Am. Chem. Soc.* **1959**, *81*, 4878.
54. Froemsdorf, D. H.; Collins, C. H.; Hammond, G. S.; DePuy, C. H. "The Direction of Elimination in the Pyrolysis of Acetates" *J. Am. Chem. Soc.* **1959**, *81*, 643.
55. Cram, D. J.; Hammond, G. S. "Organic Chemistry"; McGraw-Hill Book Co., New York, **1959**, p 712.
56. Hammond, G. S.; Borduin, W. G.; Guter, G. A. "Chelates of β -Diketones. I. Enolization, Ionization, and Spectra" *J. Am. Chem. Soc.* **1959**, *81*, 4682.
57. Guter, G. A.; Hammond, G. S. "Chelates of β -Diketones. III. Steric Effects in the Formation Constants of Metal Chelates" *J. Am. Chem. Soc.* **1959**, *81*, 4686.
58. Hammond, G. S.; Douglas, K. J. "Aromatic Nitration. III. The ortho to para Ratio in Nitration of Benzonitrile" *J. Am. Chem. Soc.* **1959**, *81*, 1184.
59. Hammond, G. S.; Moore, W. M. "The Role of a Triplet State in the Photoreduction of Benzophenone" *J. Am. Chem. Soc.* **1959**, *81*, 63344.
60. Hammond, G. S.; Peloquin, J.; Fang, F. T.; Kochi, J. K. "Benzyl Tosylates. VII. Capture of Intermediates by Foreign Anions" *J. Am. Chem. Soc.* **1960**, *82*, 443.
61. Hammond, G. S. "Review of Mechanism and Structure in Organic Chemistry", by E. S. Gould *J. Am. Chem. Soc.* **1960**, *82*, 4119.
62. Moore, W. M.; Hammond, G. S.; Foss, R. P. "Photocchemical Evidence for Triplet State Quenching by Paramagnetic Species" *J. Chem. Phys.* **1960**, *32*, 1594.
63. Collins, C. H.; Hammond, G. S. "Solvolysis of Dimethylcyclopentyl Halides" *J. Org. Chem.* **1960**, *25*, 698.
64. Collins, C. H.; Hammond, G. S. "The Steric Course of Hydration of 1,2-Dimethylcyclohexene" *J. Org. Chem.* **1960**, *25*, 911.
65. Collins, C. H.; Hammond, G. S. "A Difficulty Encountered in the Use of Methyltriphenyl-phosphonium Iodide in the Wittig Reaction" *J. Org. Chem.* **1960**, *25*, 1434.
66. Hammond, G. S.; Hawthorne, M. F.; Waters, J. H.; Graybill, B. M. "Ion-Pair Formation in the Reactions of Alkyl Iodides with Silver Salts" *J. Chem. Phys.* **1960**, *82*, 704.
67. Hammond, G. S.; Collins, C. H. "Stereochemistry of Hydrogen Halide Addition to 1,2-Dimethylcyclopentene" *J. Am. Chem. Soc.* **1960**, *82*, 4323.
68. Wu, C.-H. S.; Hammond, G. S.; Wright, J. M. "The Mechanism of Decomposition of Azo Compounds. I. 1,1'-Azocyanocyclohexane and N-(1-Cyanocyclohexyl)-pentamethyleneketenimine" *J. Am. Chem. Soc.* **1960**, *82*, 5386.
69. Hammond, G. S.; Wu, C.-H. S.; Trapp, O. D.; Warkentin, J.; Keys, R. T. "The Mechanism of Decomposition of Azo Compounds. II. Cage Effects in the Decomposition of α,α' -Azoisobutyronitrile and Related Compounds" *J. Am. Chem. Soc.* **1960**, *82*, 5394.
70. Hammond, G. S.; Moschel, A. W.; Borduin, W. G. "Chelates of β -Diketones. IV. Acidity of Dibenzoylmethanes" *J. Phys. Chem.* **1960**, *64*, 1782.
71. Hammond, G. S. "Free Radicals" In *Encyclopedia of Chemical Technology* Second Supp., Anthony Stander, Editor, Interscience Encyclopedia, Inc., New York, **1960**, pp 347–354.
72. Hammond, G. S.; Nandi, U. S. "Benzoyl Peroxide as an Initiator for Hydrocarbon Oxidation" *J. Am. Chem. Soc.* **1961**, *83*, 1213.
73. Hammond, G. S.; Nandi, U. S. "The Effect of Cumyl Hydroperoxide on the Behavior of Oxidation Inhibitors" *J. Am. Chem. Soc.* **1961**, *83*, 1217.
74. Moore, W. M.; Hammond, G. S.; Foss, R. P. "Mechanisms of Photoreactions in Solution. I. Reduction of Benzophenone by Benzhydrol" *J. Am. Chem. Soc.* **1961**, *83*, 2789.
75. Hammond, G. S.; Baker, W. P.; Moore, W. M. "Mechanisms of Photoreactions in Solution. II. Reduction of Benzophenone by Toluene and Cumene" *J. Am. Chem. Soc.* **1961**, *83*, 2795.

76. Hammond, G. S.; Warkentin, J. "The Addition of Deuterium Bromide to 1,3-Cyclohexadiene" *J. Am. Chem. Soc.* **1961**, 83, 2554.
77. Hammond, G. S.; Leermakers, P. A.; Turro, N. J. "Mechanisms of Photoreactions in Solution. III. Direct and Sensitized Photolysis of Ethyl Pyruvate" *J. Am. Chem. Soc.* **1961**, 83, 2395.
78. Hammond, G. S.; Leermakers, P. A.; Turro, N. J. "Mechanisms of Photoreactions in Solution. IV. Photosensitized cis-trans Isomerization of the Piperylenes" *J. Am. Chem. Soc.* **1961**, 83, 2396.
79. Kopecky, K. R.; Hammond, G. S.; Leermakers, J. "Mechanisms of Photoreaction in Solution. V. The Triplet State of Methylene in Solution" *J. Am. Chem. Soc.* **1961**, 83, 2397.
80. Hammond, G. S.; Turro, N. J.; Fischer, A. "Mechanisms of Photoreactions in Solution. VII. Photosensitized Cyclo-addition Reactions" *J. Am. Chem. Soc.* **1961**, 83, 4674.
81. Hammond, G. S.; Leermakers, P. A. "Mechanisms of Photoreactions in Solution. VI. Reduction of 1-Naphthaldehyde and 2-Acetonaphthone" *J. Am. Chem. Soc.* **1962**, 84, 207.
82. Hammond, G. S.; Williams, R. M. "The Mechanism of the Reaction of Acetylacetone with Diazomethane" *J. Org. Chem.* **1962**, 27, 3775.
83. Hammond, G. S.; Kopecky "Rate of Polymerization of 2m₂-Dideuterostyrene" *J. Polym. Sci.* **1962**, 60, S54.
84. Kopecky, K. R.; Hammond, G. S.; Leermakers, P. A. "Mechanisms of Photoreactions in Solution. VIII. The Triplet State of Methylene in Solution" *J. Am. Chem. Soc.* **1962**, 84, 1015.
85. Kopecky, K. R.; Nonhebel, D.; Morris, G.; Hammond, G. S.; "The Preparation of Dipivaloylmethane" *J. Org. Chem.* **1962**, 27, 1036.
86. Hammond, G. S.; Turro, J.; Leermakers, P. A. "The Mechanisms of Photoreactions in Solution. IX. Energy Transfer from the Triplet States of Aldehydes and Ketones to Unsaturated Compounds" *J. Phys. Chem.* **1962**, 66, 1144.
87. Hammond, G. S.; Leermakers, P. A. "Mechanisms of Photoreactions in Solution. X. Relative Efficiencies of Various Quenchers in the Photoreduction of Benzophenone" *J. Phys. Chem.* **1962**, 66, 1148.
88. Neuman, R. C.; Hammond, G. S.; Dougherty, T. J. "The Nature of Amidinium Groups" *J. Am. Chem. Soc.* **1962**, 84, 1506.
89. Turro, N. J.; Hammond, G. S. "Mechanisms of Photoreactions in Solution. XI. The Photosensitized Dimerization of Cyclopentadiene" *J. Am. Chem. Soc.* **1962**, 84, 2841.
90. Clovis, J. S.; Hammond, G. S. "Synthesis of Toluene- α -D₃-1-C¹⁴; Exchange during an Attempted Catalytic Deuteration" *J. Org. Chem.* **1962**, 27, 2284.
91. Hammond, G. S.; Saltiel, J. "Mechanisms of Photoreactions in Solution. XII. Photosensitized cis-trans Isomerization of the Stilbenes" *J. Am. Chem. Soc.* **1962**, 84, 4983.
92. Hammond, G. S.; Clovis, J. S. "The Mechanism of the Benzidine Rearrangement. IV. Evidence for a Metastable Intermediate" *Tetrahedron Lett.* **1962**, 21, 945.
93. Hammond, G. S.; Emmons, W. D.; Parker, C. O.; Graybill, B. M.; Waters, J. H.; Hawthorne, M. F. "Silver Salt Alkylation Reactions and the Preparation of Polynitroalkanes" *Tetrahedron Lett.* **1963**, No. 19, Suppl. 1, 177.
94. Hammond, G. S.; Nonhebel, D. C.; Wu, C.-H. S. "Chelates of β -Diketones. V. Preparation and Properties of Chelates Containing Sterically Hindered Ligands" *Inorg. Chem.* **1963**, 2, 73.
95. Hammond, G. S.; Mahoney, L. R.; Nandi, U. S. "Effects of Metallic Compounds in Oxidation Systems. I. Ferric Chloride as an Inhibitor" *J. Am. Chem. Soc.* **1963**, 85, 737.
96. Hammond, G. S.; Neuman, R. C. "The Mechanism of Decomposition of Azo Compounds. III. Cage Effects with Positively Charged Geminate Radical Pairs" *J. Am. Chem. Soc.* **1963**, 85, 1501.
97. Hammond, G. S.; Liu, R. S. H. "Mechanisms of Photoreactions in Solution. XIII. Stereoisomeric Triplet States of Conjugated Dienes" *J. Am. Chem. Soc.* **1963**, 85, 477.
98. Herkstroeter, W. G.; Saltiel, J.; Hammond, G. S. "Mechanisms of Photoreactions in Solution. XIV. Stereoisomeric Triplet States of an α -Diketone" *J. Am. Chem. Soc.* **1963**, 85, 482.
99. Hammond, G. S.; Hardham, W. M. "Mechanisms of Photoreactions in Solution. XV. Photosensitized Addition of Maleic Anhydride to Benzene" *Proc. Chem. Soc. (London)* **1963**, 63.
100. Pitts, J. N., Jr.; Wilkinson, F.; Hammond, G. S. "The Vocabulary of Photochemistry" *Adv. Photochem.* **1963**, 1, 1-21.
101. Hammond, G. S.; Turro, N. J. "Organic Photochemistry" *Science* **1963**, 142, 1541.
102. Hammond, G. S.; Neuman, R. C. "Amidinium Ions. I. Hindered Internal Rotation" *J. Phys. Chem.* **1963**, 67, 1655.
103. Neuman, R. C.; Hammond, G. S. "Amidinium Ions. II. Mechanisms of Exchange of Protons Bound to Nitrogen" *J. Phys. Chem.* **1963**, 67, 1659.
104. Hammond, G. S.; Seidel, B.; Pincock, R. E. "Mechanism of the Benzidine Rearrangement. V. Acid-Catalyzed Decomposition of Tetraphenyltetrazene and Related Compounds" *J. Org. Chem.* **1963**, 28, 3275.
105. Seidel, B.; Hammond, G. S. "Polymerization of N, N'-Diphenyl-p,p' diphenoquinonimine" *J. Org. Chem.* **1963**, 28, 3280.
106. Hammond, G. S.; Clovis, J. S. "Mechanism of the Benzidine Rearrangement. VI. Rearrangement of p-Hydrazotoluene" *J. Org. Chem.* **1963**, 28, 3283.
107. Clovis, J. S.; Hammond, G. S. "Mechanism of the Benzidine Rearrangement. VII. Rearrangement of m-Hydrazoaniline" *J. Org. Chem.* **1963**, 28, 3290.
108. Leermakers, P. A.; Byers, G. W.; Lamola, A. A.; Hammond, G. S. "Intramolecular Electronic Energy Transfer in 4-(1-Naphthylethyl)-benzophenone" *J. Am. Chem. Soc.* **1963**, 85, 2670.
109. Saltiel, J.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XVII. cis-trans Isomerization of the Stilbenes by Excitation Transfer from Low Energy Sensitizers" *J. Am. Chem. Soc.* **1963**, 85, 2515.
110. Hammond, G. S.; Saltiel, J. "Mechanisms of Photoreactions in Solution. XVIII. Energy Transfer with Nonvertical Transitions" *J. Am. Chem. Soc.* **1963**, 85, 2516.
111. Hammond, G. S.; Turro, N. J.; Liu, R. S. H. "Mechanisms of Photochemical Reactions in Solution. XVI. Photosensitized Dimierization of Conjugated Dienes" *J. Org. Chem.* **1963**, 28, 3297.

112. Bradshaw, J. S.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XIX. Photodimerization of Methyl β -Naphthyl Ether" *J. Am. Chem. Soc.* **1963**, 85, 3953.
113. Waits, H. P.; Hammond, G. S. "The Cage Effect in Thermal Decomposition Reactions in Solution" *J. Am. Chem. Soc.* **1964**, 86, 1911.
114. Hammond, G. S.; Fox, J. R. "Cage Effects in Thermal and Photochemical Decomposition of an Azo Compound" *J. Am. Chem. Soc.* **1964**, 86, 1918.
115. Hammond, G. S. "Reaction Kinetics in Organic Chemistry". *Treatise on Analytical Chemistry*, I. M. Kolthoff and P. J. Elving, Editors, John Wiley and Sons, **1964**.
116. Gaspar, P. P. Hammond, G. S. "The Spin States of Carbenes" Chapter 12 in *Carbene Chemistry*, Vol. 1. W. Kirmse, Editor, Academic Press, New York, **1964**, pp 235–274.
117. Hammond, G. S.; DeBoer, C. D. "Multiplicity of Mechanisms in the Cope Rearrangement" *J. Am. Chem. Soc.* **1964**, 86, 899.
118. Cram, D. J.; Hammond, G. S. "Organic Chemistry", second edition, McGraw-Hill Book Co., **1964**, New York.
119. Valentine, D.; Turro, N. J.; Hammond, G. S. "Thermal and Photosensitized Dimerizations of Cyclohexadiene" *J. Am. Chem. Soc.* **1964**, 86, 5202.
120. Hammond, G. S.; Foss, R. P.; "Mechanisms of Photoreactions in Solution. XX. Quenching of Excited States of Benzophenone by Metal Chelates" *J. Phys. Chem.* **1964**, 68, 3739.
121. Foss, R. P.; Cowan, D. O.; Hammond, G. S. "Mechanisms of Photoreactions in Solution. XXI. Quenching of Excited Singlet States of Benzophenone" *J. Phys. Chem.* **1964**, 68, 3747.
122. Hammond, G. S.; Saltiel, J.; Lamola, A. A.; Turro, N. J.; Bradshaw, J. S.; Cowan, D. O.; Counsell, R. C.; Vogt, V.; Dalton, C. "Mechanisms of Photochemical Reactions in Solution. XXII. Photochemical cis-trans Isomerizations" *J. Am. Chem. Soc.* **1964**, 86, 3197.
123. Hammond, G. S.; Wyatt, P.; DeBoer, C. D.; Turro, N. J. "Mechanisms of Photochemical Reactions in Solution. XXIII. Photosensitized Isomerization Involving Saturated Centers" *J. Am. Chem. Soc.* **1964**, 86, 2532.
124. Cowan, D. O.; Couch, M. M.; Kopecky, K. R.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXIV. Photochemical and Catalytic Decomposition of Diazoacetophenone" *J. Org. Chem.* **1964**, 29, 1922.
125. Hammond, G. S.; Stout, C. A.; Lamola, A. A. "Mechanisms of Photochemical Reactions in Solution. XXV. The Photodimerization of Coumarin" *J. Am. Chem. Soc.* **1964**, 86, 3103.
126. Hammond, G. S. "Organic Photochemistry" *Science* **1964**, 145, 1469.
127. Fox, J. R.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXVI. Photosensitized Decomposition of Azo Compounds" *J. Am. Chem. Soc.* **1964**, 86, 4031.
128. Liu, R. S. H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXVII. Photosensitized Cyclization of Myrcene: The Problem of Addition of Dienes to Alkenes" *J. Am. Chem. Soc.* **1964**, 86, 1892.
129. Herkstroeter, W. G.; Lamola, A. A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXVIII. Values of Triplet Excitation Energies of Selected Sensitizers" *J. Am. Chem. Soc.* **1964**, 86, 4537.
130. Lamola, A. A.; Hammond, G. S.; Mallory, F. B. "Mechanisms of Photochemical Reactions in Solution. XXIX. The Blue Emission from cis-Stilbenes" *Photochem. Photobiol.* **1965**, 4, 259.
131. Lamola, A. A.; Herkstroeter, W. G.; Dalton, J. C. "Excitation Energies of Azulene and Naphthacene Triplets" *J. Chem. Phys.* **1965**, 42, 1715.
132. Lamola, A. A.; Leermakers, P. A.; Byers, G. W.; Hammond, G. S. "Intramolecular Electronic Energy Transfer Between Nonconjugated Chromophores in Some Model Compounds" *J. Am. Chem. Soc.* **1965**, 87, 2322.
133. Collier, H. E.; Hammond, G. S. "Process for Purifying Tetramethyl Lead", Patent No. 3,187,028, June 1, 1965.
134. Liu, R. S. H.; Turro, N. J.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXXI. Activation and Deactivation of Conjugated Dienes by Energy Transfer" *J. Am. Chem. Soc.* **1965**, 87, 3406.
135. Hammond, G. S.; Cole, R. S. "Mechanisms of Photochemical Reactions in Solution. XXXII. Asymmetric Induction During Energy Transfer" (Letter to the Editor) *J. Am. Chem. Soc.* **1965**, 87, 3256.
136. Hammond, G. S. "The Faculty is Teaching" *Eng. Sci.* **1965**, 28, 16.
137. Jones, L. B.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXX. Photosensitized Isomerization of Azobenzene" *J. Am. Chem. Soc.* **1965**, 87, 4219.
138. Lamola, A. A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXXIII. Intersystem Crossing Efficiencies" *J. Chem. Phys.* **1965**, 43, 2129.
139. Wagner, P. J.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXXV. Mechanisms of Type II Photoelimination" (Letter to the Editor) *J. Am. Chem. Soc.* **1965**, 87, 4009.
140. Hammond, G. S. et al. "Mechanisms of Photochemical Reactions in Solution. XXXIV. Photochemical Reactions Involving Indirect Excitations" *Kagaku to Kogyo (Tokyo) Chem. Chem. Ind.* **1965**, 18, 1464.
141. Hammond, G. S.; Gotthardt, H.; Coyne, L. M.; Axelrod, M.; Raynor, D. R.; Mislow, K. "Mechanisms of Photochemical Reactions in Solution. XXXVI. Energy Transfer in the Racemization of Aryl Sulfoxides" (Letter to the Editor) *J. Am. Chem. Soc.* **1965**, 87, 4959.
142. Mislow, K.; Axelrod, M.; Raynor, D. R.; Gotthardt, H.; Coyne, L. M.; Hammond, G. S. "Light-Induced Pyramidal Inversion of Sulfoxides" (Letter to the Editor) *J. Am. Chem. Soc.* **1965**, 87, 4958.
143. Hammond, G. S. "Reaction Kinetics in Organic Chemistry" "Treatise on Analytical Chemistry" *Analytical Chemistry of Inorganic and Organic Compounds Part II*, Vol. II., I. M. Kolthoff and P. J. Elving, Editors, Interscience Publishers, a Division of John Wiley and Sons, New York, **1965**, pp 59–94.
144. Wagner, P. J.; Stout, C. A.; Searles, S., Jr.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXXVII. Solvent Effects in the Photolysis of Tetramethyloxetanone" *J. Am. Chem. Soc.* **1966**, 88, 1242.
145. Hamilton, C. L.; Niemann, C.; Hammond, G. S. "A Quantitative Analysis of the Binding of N-Acyl Derivatives of α -Amino amides by a Chymotrypsin" *Proc. Natl. Acad. Sci. U.S.A.* **1966**, 55, 664.

146. Wagner, P. J.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXXVIII. Quenching of the Type II Photoelimination Reaction" *J. Am. Chem. Soc.* **1966**, 88, 1245.
147. Caldwell, R. A.; Whitten, D. G.; Hammond, G. S. "Triplet States in Radiation Chemistry. Radiochemical cis-trans Isomerization" *J. Am. Chem. Soc.* **1966**, 88, 2659.
148. Herkstroeter, W. F.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XXXIX. Study of Energy Transfer by Kinetic Spectrophotometry" *J. Am. Chem. Soc.* **1966**, 88, 4769.
149. Herkstroeter, W. F.; Jones, L. B.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XL. Steric Hindrance to Energy Transfer" *J. Am. Chem. Soc.* **1966**, 88, 4777.
150. Fry, A. J.; Liu, R. S. H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLI. Comparison of Rates of Fast Triplet Quenching Reactions" **1996**, 88, 4781.
151. Stephenson, L. M.; Whitten, D. G.; Vesley, G. F.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLII. Conjugated Dienes as Quenchers for Excited Singlet States of Aromatic Hydrocarbons" *J. Am. Chem. Soc.* **1966**, 88, 3665.
152. Hammond, G. S. "Free Radicals" in *Encyclopedia of Chemical Technology* Second Edition, Vol. 10, Anthony Standen, Editor, John Wiley and Sons, Inc., New York, **1966**, pp 114–123.
153. Hammond, G. S. "Chemical Dynamics. A Current Review" (Report of the Panel on Chemical Dynamics of the Committee for the Survey of Chemistry, Division of Chemistry and Chemical Technology, National Academy of Sciences, National Research Council), Publication 1292-B, National Academy of Sciences, National Research Council, Washington, D.C., **1966**.
154. Paskovich, D.; Gaspar, P.; Hammond, G. S. "Simplified Method for the Preparation of Fluoroalkyl Iodides" *J. Org. Chem.* **1967**, 32, 833.
155. Hardham, W. M.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLIII. Addition of Maleic Anhydride to Benzene" *J. Am. Chem. Soc.* **1967**, 89, 3200.
156. Lam, Y. Y.; Valentine, D. Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLIV. Photodimerization of Cyclohexenone" *J. Am. Chem. Soc.* **1967**, 89, 3482.
157. Liu, R. S. H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLV. Photosensitized Internal Addition of Dienes to Olefins" *J. Am. Chem. Soc.* **1967**, 89, 4936.
158. Gotthardt, H.; Steinmetz, R. "Mechanisms of Photochemical Reactions in Solution. XLVI. Photocyclic Addition of Carbonyl Compounds to Allenes" *Chem. Commun.* **1967**, 10, 480.
159. Hammond, G. S. "Energy Transfer in Organic Photochemistry" "Reactivity of the Photoexcited Organic Molecules", reprinted from Proceedings of the 13th Conference on Chemistry at the University of Brussels, October, **1965**, Interscience Publishers, a Division of John Wiley and Sons, London, **1967**, pp 119–144.
160. Kristinsson, H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLVII. Cyclization of Compounds Containing Phenyl and Conjugated Dienyl Chromophores" *J. Am. Chem. Soc.* **1967**, 89, 5968.
161. Kristinsson, H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLVIII. Rearrangement of Phenylvinylcyclopropanes" *J. Am. Chem. Soc.* **1967**, 89, 5970.
162. Hammond, G. S. "The Faculty is Teaching" Topic: 14, a Journal of the Liberal Arts, Washington and Jefferson College, Washington, Pennsylvania, pp 21–28, Fall, **1967**.
163. Hammond, G. S. "University-Industry Relations: A Confrontation of Anachronisms" *Eng. Sci.* **1967**, 31, 28.
164. Hammond, G. S. "Photochemical Systems" "Journeys in Science", Lectures presented at the Twelfth AFOSR Science Seminar in cooperation with the University of New Mexico, Albuquerque, New Mexico, **1967**, pp 219–241.
165. Richards, J. H.; Cram, D. J.; Hammond, G. S. "Elements of Organic Chemistry" McGraw-Hill Book Co., New York, **1967**, p 444.
166. DeBoer, C. D.; Turro, N. J.; Hammond, G. S. "cis- And trans-1,2-Divinylcyclobutane" *Org. Synth.* **1967**, 47, 64.
167. Stephenson, L. M.; Whitten D. G.; Hammond, G. S. "Quenching of Excited Singlet States of Aromatic Hydrocarbons by Conjugated Dienes" "The Chemistry of Ionization and Excitation", **1967**, pp 35–42, Proceedings of Conference on Radiation Chemistry and Photochemistry, University of Newcastle upon Tyne, 21–23 September, **1966**; G. R. A. Johnson and G. Scholes, Editors, published by Taylor and Francis, Ltd., London, **1967**.
168. Herberhold, M.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. XLIX. The Photosensitized Dimerization of Molecules Containing Conjugated Double and Triple Bonds" *Ber. Bunsen-Ges. Phys. Chem.* **1968**, 72, 309.
169. Stephenson, L. M.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. L. Fate of the Excitation Energy in the Quenching of Fluorescence by Conjugated Dienes" *Pure Appl. Chem.* **1968**, 16, 125.
170. Ziegler, G. R.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LI. The Photorearrangement of 1,4-Epoxy-1,4-dihydronaphthalene to Benz-f]oxepin" *J. Am. Chem. Soc.* **1968**, 90, 513.
171. "Chemical Gamesmanship", article reprinted from *Eng. Sci.*, California Institute of Technology, February **1968**.
172. Hammond, G. S. "Chemistry Boils Down to Three Elements, Says Hammond: Structure, Dynamics and Synthesis" *Caltech News* **1968**, 2.
173. Hammond, G. S. "Chemical Changes Initiated by High-Energy Radiation" *Research* 2 California Institute of Technology, Spring **1968**.
174. Hammond, G. S.; Weiner, S. "The Rates of Recombination of Cyanoalkyl Radicals in Solution" *J. Am. Chem. Soc.* **1968**, 90, 1659.
175. Monroe, B. M.; Weiner, S. A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LII. Photoreduction of Camphorquinone" *J. Am. Chem. Soc.* **1968**, 90, 1913.
176. Dence, J. B.; Gray, H. B.; Hammond, G. S. "Chemical Dynamics." W. A. Benjamin, Inc., New York, **1968**, p 186.
177. Wagner, P. J.; Hammond, G. S. "Properties and Reactions of Organic Molecules in their Triplet States" *Adv. Photochem.*, Vol. 5, W. A. Noyes, Jr. and J. N. Pitts, Jr., Editors, Interscience Publishers, a Division of John Wiley and Sons, New York, **1968**, pp 21–156.

178. Hammond, G. S.; Gray, H. B. "Chemical Dynamics for College Freshmen" *J. Chem. Educ.* **1968**, *45*, 354.
179. Gotthardt, H.; Steinmetz, R.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LIII. Cycloaddition of Carbonyl Compounds to Allenes" *J. Org. Chem.* **1968**, *33*, 2774.
180. Murov, S. L.; Cole, R. S.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LIV. A New Mechanism for Photosensitization" *J. Am. Chem. Soc.* **1968**, *90*, 2957.
181. Cooke, R. S.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LV. Naphthalene-Sensitized Photoracemization of Sulfoxides" *J. Am. Chem. Soc.* **1968**, *90*, 2958.
182. Hammond, G. S.; Caldwell, R. A.; King, J. M.; Krstinskoon, H.; Whitten, D. G. "Correlation between Photochemistry and High-Energy Radiation" *Photochem. Photobiol.* **1968**, *7*, 695.
183. Murov, S.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LVI. A Singlet-Sensitized Reaction" *J. Phys. Chem.* **1968**, *72*, 3797.
184. Hammond, G. S.; Wu, C.-H. S. "Oxidation in Iron (II) Chloride in Nonaqueous Solvents" *Adv. Chem. Ser.* **1968**, *77*, 186. Group 1. Ziegler, G. R. "Mechanisms of Photochemical Reactions in Solution. LVII. The Photorearrangement of 1,4-Epoxy-1,4-dihydronaphthalene to Benz[f]oxepin" *J. Am. Chem. Soc.* **1969**, *91*, *1*, 446. Group 2. Monroe, B. M.; Weiner, S. A. "Mechanisms of Photochemical Reactions in Solution. LVIII. Photoreduction of Camphorquinone" *J. Am. Chem. Soc.* **1969**, *91*, 450.
185. Hammond, G. S.; Shin, S. C.; Van, S. P. "Mechanisms of Photochemical Reactions in Solution. LIX. Photoisomerization of β -Styrylnaphthalene" *Mol. Photochem.* **1969**, *1*, 89.
186. Hammond, G. S.; Weiner, S. A. "The Rates of Recombination of Carbon Radicals in Solution" *J. Am. Chem. Soc.* **1969**, *91*, 986.
187. Hammond, G. S.; Weiner, S. A. "The Spin Resonance Spectrum and Reactivity of the t-Butoxy Radical" (Communication) *J. Am. Chem. Soc.* **1969**, *91*, 2182.
188. Hyndman, H. L.; Monroe, B. M.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LX. Photochemical Isomerization of 2,4-Hexadiene via a Quantum Chain Mechanism" *J. Am. Chem. Soc.* **1969**, *91*, 2852.
189. Stephenson, L. M.; Hammond, G. S. "Deactivation of Excited States" *Angew. Chem., Int. Ed. Engl.* **1969**, *8*, 261.
190. Stephenson, L. M.; Hammond, G. S. "Die Desaktivierung angeregter Zustände" *Angew. Chem.* **1969**, *81*, 279. (German Version of 189).
191. Hammond, W. B.; Hammond, G. S. "Physical Organic Photochemistry" "Annual Survey of Photochemistry", Vol. 1, Survey of 1967 Literature, Wiley-Interscience, a Division of John Wiley and Sons, New York, **1969**, pp 235–351. Group 3. Moses, F. G.; Liu, R. S. H.; Monroe, B. M. "The 'Merry-Go-Round' Quantum Yield Apparatus" *Mol. Photochem.* **1969**, *1*, 245. Group 4. Weiner, S. A.; Hamilton, Edwin J., Jr.; Monroe, B. M. "The Rates of Termination of Radicals in Solution. III Semidione Radicals" *J. Am. Chem. Soc.* **1969**, *91*, 6350.
192. Hammond, G. S.; Weiner, S. A. "Rates of Recombination of Radicals in Solution" *Intra-Sci. Chem. Rep.* **1969**, *3*, 241. Group 5. Monroe, B. M. "Reaction of α,β -Unsaturated Acid Chlorides with β -Diketones. Synthesis of 4,6,7,8-Tetrahydro-2H-benzopyran-2,5(3H)-diones" *J. Heterocycl. Chem.* **1969**, *6*, 917. Group 6. Monroe, B. M. "Hydrogen Transfer in Photochemical Reactions" *Intra-Sci. Chem. Rep.* **1969**, *3*, 283.
193. Hammond, G. S. "Reflections on Photochemical Reactivity" *Adv. Photochem.* **1969**, *7*, 373–391.
194. Hammond, G. S.; Ramakrishna, V.; Rao, C. N. R.; Tamres, M. "Indo-US Conference on Chemical Education—Design for Innovation" *J. Chem. Educ.* **1970**, *47*, 36.
195. Leonard, J. E.; Hammond, G. S. "Physical Processes in Organic Photochemistry" Chapter in "Annual Survey of Photochemistry", Vol. 2: Survey of 1968 Literature, Turro, Hammond, Pitts, Valentine, Broadbent, Leonard, Lewis, Pond, and Whittle, Editors, John Wiley & Sons, Inc., New York, **1970**.
196. Fujisawa, T.; Monroe, B. M.; Hammond, G. S. "The Rates of Termination of Radicals in Solution. V. Ketyl Radicals Derived from α -Keto Acids and Esters" *J. Am. Chem. Soc.* **1970**, *92*, 542.
197. Hammond, G. S. "A New Role for Science—I." *Chem. Eng. News* **1970**, *48*, 5.
198. Hammond, G. S. "A New Role for Science —II" *Chem. Eng. News* **1970**, *48*, 3.
199. Hamilton, E. J., Jr.; Wood, D. E.; Hammond, G. S. "Use of ERP to Measure the Termination Rates of Photochemically Produced Organic Free Radicals in Solution" *Rev. Sci. Instrum.* **1970**, *41*, 452.
200. Meyer, J. W.; Hammond, G. S. "Vapor-Phase Photolysis of Phenyl Acetate" *J. Am. Chem. Soc.* **1970**, *92*, 2187.
201. Cooke, R. S.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXII. Naphthalene-Sensitized Photoracemization of Sulfoxides" *J. Am. Chem. Soc.* **1970**, *92*, 2739.
202. Penner, T. L.; Whitten, D. G.; Hammond, G. S. "Radiation-Induced Reactions of 1,3-Cyclohexadiene" *J. Am. Chem. Soc.* **1970**, *92*, 2861.
203. Sanford, E. C.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXIII. A 1,2-and 1,3-Benzyl Group Migration in Compounds Containing Phenyl and Conjugated Dienyl Chromophores" *J. Am. Chem. Soc.* **1970**, *92*, 3497.
204. Hammond, G. S. "Relevance of Pure Research Today", lecture presented September 1, **1970**, Proceedings of the California Association of Chemistry Teachers.
205. Hammond, G. S. "Restructuring of Chemistry and Chemical Curricula" *Pure Appl. Chem.* **1970**, *22*, 3.
206. Hammond, G. S. "Senescence: The Enemy of Progress" *Pure Appl. Chem.* **1970**, *22*, 205.
207. McCall, M. T.; Hammond, G. S.; Yonemitsu, O.; Witkop, B. "Mechanisms of Photochemical Reactions in Solution. LXV. Quenching of Excited Singlet States of Electron-Rich Aromatic Compounds by Methyl Chloroacetate" *J. Am. Chem. Soc.* **1970**, *92*, 6991.
208. Cooke, R. S.; Hammond, G. S. "Use of Photochemistry to Produce and Study Free Radicals", Special Publication No. 24, The Chemical Society, London **1971**.
209. Penner, T. L.; Hammond, G. S. "Radiation-Induced Chain Isomerization of cis-1,2-Diphenylpropene in Cyclohexane" *J. Phys. Chem.* **1970**, *75*, 293.
210. Wagestein, H. F.; Hammond, G. S. "Triplettloschung durch Chrom (III)-Komplexe" *Theor. Chim. Acta. (Berlin)* **1971**, *20*, 186.

211. Wamser, C. C.; Hammond, G. S.; Chang, C. T.; Baylor, C., Jr. "Photoreaction of Michler's Ketone with Benzophenone. A Triplet Exciplex" *J. Am. Chem. Soc.* **1970**, 92, 6362. Group 7. "Photoreduction of Azoxybenzene by Chemical Sensitization" Monroe, B. M.; Wamser, C. C. *Mol. Photochem.* **1970**, 2, 213.
212. Wrighton, M.; Hammond, G. S.; Gray, H. B. "The Mechanism of Photoaquation of Hexacyanocobaltate (III)" *J. Am. Chem. Soc.* **1971**, 93, 5254.
213. Sharp, IV, L. J.; Hammond, G. S. "Photoreactions of N-Methyl-2-Pyridone" *Mol. Photochem.* **1970**, 2, 225.
214. Wrighton, M.; Hammond, G. S.; Gray, H. B. "Isomerization of Conjugated Dienes via Photolysis of Metal Carbonyl-Diene Complexes" *J. Am. Chem. Soc.* **1970**, 92, 6068.
215. Hammond, G. S. "Relevance of Pure Research Today" *J. Chem. Educ.* **1971**, 48, 362.
216. Wrighton, M.; Hammond, G. S.; Gray, H. B. "Metal Carbonyl Photoassisted Cis-Trans Isomerization of Stilbene" *J. Am. Chem. Soc.* **1971**, 93, 3285.
217. Hammond, G. S.; Hamilton, E. J., Jr.; Weiner, S. A.; Heftner, H. J.; Gupta, A. "Medium Effects of Radical-Radical Reactions" XXIIInd International Congress of Pure and Applied Chemistry **1971**, 4, 257.
218. Bahurel, Y. L.; MacGregor, D. J.; Penner, T. L.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXI. Photochemistry of 1,3-Cyclohexadiene at Long Wavelength" *J. Am. Chem. Soc.* **1972**, 94, 637.
219. Wrighton, M.; Hammond, G. S.; Gray, H. B. "The Mechanism of Substitution of Acetone by Alkenes in Acetonepentacarbonyl-tungsten (0)" *J. Am. Chem. Soc.* **1971**, 93, 6048.
220. Wrighton, M.; Hammond, G. S.; Gray, H. B. "Emission from Tungsten Carbonyl Complexes" *J. Am. Chem. Soc.* **1971**, 93, 4326.
221. Eaton, D. F.; Bergman, R. G.; Hammond, G. S. "Multiple Mechanisms in the Thermal and Photochemical Decomposition of 2,3-Diazabicyclo[3.1.0] hex-2-enes" *J. Am. Chem. Soc.* **1972**, 94, 1351.
222. Meyer, J. W.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXX. Photolysis of Aryl Esters" *J. Am. Chem. Soc.* **1972**, 94, 2219.
223. Heftner, J. J.; Hecht, T. A.; Hammond, G. S. "Radical Attack on Propylene as Studied by Electron Spin Resonance" *J. Am. Chem. Soc.* **1972**, 94, 2793.
224. Valentine, D., Jr.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXVII. Energy Wastage in Photosensitized Isomerizations of the Stilbenes" *J. Am. Chem. Soc.* **1972**, 94, 3449.
225. Labianca, D. A.; Taylor, G. N.; Hammond, G. S. "Structure-Reactivity Factors in the Quenching of Fluorescence from Naphthalene by Conjugated Dienes" *J. Am. Chem. Soc.* **1972**, 94, 3684.
226. Taylor, G. N.; Hammond, G. S. "Fluorescence Quenching of Naphthalene by Conjugated Dienes. Steric, Solvent, and Conformational Effects" *J. Am. Chem. Soc.* **1972**, 94, 3684.
227. Taylor, G. N.; Hammond G. S. "Deuterium Isotope Effects in Quenching of Aromatic Hydrocarbon Fluorescence by Conjugated Dienes" *J. Am. Chem. Soc.* **1972**, 94, 3687.
228. Fujisawa, T.; Hammond, G. S. "The Rates of Termination of Radicals in Solution. VI. Ketyl Radicals Derived from Methyl-Substituted Phenylglyoxylic Acids" *J. Am. Chem. Soc.* **1972**, 94, 4175.
229. Carroll, F. A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXII. Electronic Pathways in the Photodissociation of 3-Methyl-1-phenoxybut-2-ene" *J. Am. Chem. Soc.* **1972**, 94, 7151.
230. Gupta, A.; Hammond, G. S. "Effects of a Magnetic Field on Some Photosensitized Reactions" *J. Chem. Phys.* **1972**, 57, No. 4.
231. Carroll, F. A.; McCall, M. T.; Hammond, G. S. "Role Charge-Transfer Interactions in the Quenching of 1,4-Dimethoxybenzene Fluorescence" *J. Am. Chem. Soc.* **1973**, 95, 315.
232. Wrighton, M.; Hammond, G. S.; Gray, H. B. "Emission Lifetimes of Tungsten Carbonyl Complexes" *Inorg. Chem.* **1972**, 11, 3122.
233. Carroll, F. A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXIV. The Photochemistry of 3-Methyl-1-Phenoxybut-2-ene" *Isr. J. Chem.* **1972**, 10, 613.
234. Wrighton, M.; Bredesen, D.; Hammond, G. S.; Gray, H. B. "Deactivation of Biacetyl Triplets by Dyanocobaltate (III) Complexes" *J. Chem. Soc., Chem. Commun.* **1972**, 1018.
235. Heftner, H. J.; Wu, C.-H. S.; Hammond, G. S. "Rates of Termination of Radicals in Solution. VII. Allylic Radicals" *J. Am. Chem. Soc.* **1973**, 95, 851.
236. Wrighton, M.; Gray, H. B.; Hammond, G. S. "A Model for the Substitutional Reactivity of Ligand Field Excited States (1)" *Mol. Photochem.* **1973**, 5, 165–178.
237. Wrighton, M.; Hammond, G. S.; Gray, H. B. "Photoprocesses in Substituted Tungsten Carbonyl Complexes" *Mol. Photochem.* **1973**, 5, 179–193.
238. Wrighton, M.; Gray, H. B.; Hammond, G. S.; Miskowski, V. "Photochemical Reactivity of trans-Diacidotetracyano-cobaltate (III) Complexes" *Inorg. Chem.* **1973**, 12, 740.
239. Hammond, G. S.; Stephenson, L. M.; Vesley, G. F. "Chemical Gears: A Demonstration of Chemical Dynamics" *J. Chem. Educ.* **1973**, 50, 529.
240. Penner, T. L.; Hammond, G. S. "Excited State Formation in the Irradiation of 1,3-Cyclohexadiene" *Organical Scintillators and Liquid Scintillation Counting*, Academic Press, Inc., New York, **1971**.
241. Dekeukeleire, D.; Sanford, E. C.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXVI. Complex Decay Mechanisms in Bi- and Trichromophoric Systems" *J. Am. Chem. Soc.* **1973**, 95, 7904.
242. Hammond, G. S.; Wu, C.-H. S. "Nickel Acetate Catalyzed Autoxidation of Benzoin" *J. Am. Chem. Soc.* **1973**, 95, 8215.
243. Geoffroy, G. L.; Wrighton, M. S.; Hammond, G. S.; Gray, H. B. "Preparation and Spectral Studies of Some Acidopenta-cyanorhodate (III) and -iridate (III) Complexes" *Inorg. Chem.* **1974**, 13, 430.
244. Harrigan, R. W.; Hammond, G. S.; Gray, H. B. "Photochemistry of Titanocene (IV) Derivatives" *J. Org. Metal. Chem.* **1974**, 81, 79–85.
245. Wrighton, M.; Hammond, G. S.; Gray, H. B. "Group VI Metal Carbonyl Photoassisted Isomerization of Olefins" *J. Org. Metal. Chem.* **1974**, 70, 288–301.
246. Geoffroy, G. L.; Gray, H. B.; Hammond, G. S. "Photochemical Cleavage of the Quadruple Bond in $[Re_2Cl_8]^{2-}$ " *J. Am. Chem. Soc.* **1974**, 96, 5565.

247. Gotthardt, H.; Hammond, G. S. "Einige Interessante Umlagerungen in der 2-Isopropyliden-oxetan-Reihe" *Chem. Ber.* **1974**, *107*, 3922–3927.
248. Hammond, G. S. "Photochemical Dynamics" from *Excited States of Matter*, C. W. Shopee, Editor. Grad. Studies Texas Tech. University, 2: 1–174, 27, **1973**.
249. Fleming, R. H.; Quina, F. H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXXI. Photocyclization of 1,8-Divinylnaphthalene. A New Method for Determining the Multiplicity of Excited-State Intermediates" *J. Am. Chem. Soc.* **1974**, *96*, 7738.
250. Wagner, B. H.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXX. Photolytic Dehydrometalation of Grignard Compounds" *J. Org. Metal. Chem.* **1975**, *85*, 1–14.
251. Gupta, A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXIX. Production of Triplets in the Quenching of the Fluorescent State of Naphthalene by an Unsaturated Hydrocarbon" *J. Am. Chem. Soc.* **1974**, *97*, 254.
252. Gupta, A.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXVII. Energy Wastage and Exciplex Formation in the Quenching of a Ketone Triplet by Sterically Hindered Alkenes" *J. Am. Chem. Soc.* **1976**, *98*, 1218.
253. Kelley, J. R.; Gupta, A.; Hammond, G. S. "Induced Deactivation of Naphthalene Triplets by cis-Piprylene" *Photochem. Photobiol.* **1975**, *21*, 275–287.
254. Gaspar, P. P.; Hammond, G. S. "Spin States in Carbene Chemistry", Chapter in *Carbenes*: Vol. II, R. A. Moss and M. Jones, Jr., Editors, John Wiley & Sons, Inc. **1975**.
255. Hammond, G. W. "Science and Technology Transfer: Which, Why and How?" *Iowa State Journal of Research* **50**:1, **1975**.
256. Hammond, G. S. "Information Management and Original Thought in Chemical Education" *J. Chem. Educ.* **1975**, *51*, 558.
257. Hammond, G. S. "Prospects for Chemical Sciences" *Chem. Tech.* February **1975**, 74.
258. Hammond, G. S.; Todd, W. Murray "Technical Assistance and Foreign Policy" *Science* **1975**, *189*, 4028.
259. Geoffroy, G. L.; Hammond, G. S.; Gray, H. B. "Photochemical Reductive-Elimination of Oxygen, Hydrogen and Hydrogen Chloride from Iridium Complexes" *J. Am. Chem. Soc.* **1975**, *97*, 3933.
260. Fleming, R. H.; Geoffroy, G. L.; Gupta, A.; Hammond, G. S.; Kliger, D. S.; Miskowski, V. M.; Gray, H. B. "Flash Kinetic Spectroscopy of $\text{Re}_2\text{Cl}_8^{2-}$ and $\text{Re}_2\text{Br}_8^{2-}$ " *J. Am. Chem. Soc.* **1976**, *98*, 48.
261. Van, S. P.; Hammond, G. S. "Amine Quenching of Aromatic Fluorescence and Fluorescent Exciplexes" *J. Am. Chem. Soc.* **1978**, *100*, 3895–902.
262. Britton, W. E.; Hammond, G. S.; Nichparenko, W.; Fleming, R. H. "A Triangle Wave Generator for Electrochemical Applications" *J. Chem. Educ.* **1976**, *53*, 68.
263. Mann, K.; Cimolino, M.; Geoffroy, G. L.; Hammond, G. S.; Orio, A. A.; Albertin, G.; Gray, H. B. "Electronic Structures and Spectra of Hexakisphenylisocyanide Complexes of Cr(0), Mo(0), W(0), Mn(I) and Mn(II)" *Inorg. Chim. Acta* **1976**, *16*, 97–101.
264. Gupta, A.; Kelly, J. R.; Evleth, E. M.; Hammond, G. S. "Photophysics of 1-Aza-indoline and Two of Its Chloro Derivatives" *J. Chem. Phys.* **1975**, *63*, 5496.
265. Winterle, J. S.; Kliger, D. S.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. 80. Photochemical Oxidation of Tris(2,2'-bipyridyl) ruthenium(II) by Molecular Oxygen" *J. Am. Chem. Soc.* **1976**, *98*, 3719.
266. Miskowski, V. M.; Robbins, J. L.; Hammond, G. S.; Gray, H. B. "Preparation and Spectroscopic Properties of Cobalt(III) Complexes Containing Phosphine Ligands. The Electronic Structural Description of Side-Bonded Dioxygen" *J. Am. Chem. Soc.* **1976**, *98*, 2477–83.
267. Miskowski, V. M.; Nobinger, G. L.; Hammond, G. S. "Preparation and Photochemistry of Azidopentacyanorhodate(III) and -iridate(II1)" *Inorg. Chem.* **1976**, *15*, 2904.
268. Miskowski, V. M.; Hammond, G. S. "The Influence of Stereochemistry on the Intensities of Charge-Transfer Electronic Transitions of Cu(II) Complexes" *Inorg. Chem.* **1974**, *13*, 430.
269. Geoffroy, G. L.; Wrighton, M. S.; Hammond, G. S.; Gray, H. B. "Emission Spectra of Square Planar Rh(I) and Ir(I) Complexes. Evidence for a Charge-Transfer Emitting State" *J. Am. Chem. Soc.* **1974**, *96*, 3105.
270. Weiss, R. G.; Hammond, G. S. "Mechanisms of Photochemical Reactions in Solution. LXXVI. The Effect of Configuration in Some Bicyclic Di-Methanes with Simple Chromophores" *J. Am. Chem. Soc.* **1978**, *100*, 1172.
271. Hammond, G. S. "The Value System in the Scientific Subculture" *Bull. Atom. Soc.* **1976**, *32*, No. 10.
272. Mann, K. R.; Gray, H. B.; Hammond, G. S. "Excited-State Reactivity Patterns of Hexakisarylisocyanide Complexes of Chromium(0), Molybdenum(0), and Tungsten(0)" *J. Am. Chem. Soc.* **1977**, *99*, 306.
273. Hammond, G. S. "Is There a New Era in Solid State Chemistry?", reprinted from Schmidt, G. M. J. et al. "Solid State Photochemistry", Monographs in Modern Chemistry, Vol. 8, New York, **1976**.
274. Gotthardt, H.; Hammond, G. S. "Zur Photochemie von 1,5-Cyclodecadienen und 1,2-Divinylcyclohexanen" *Chem. Ber.* **1976**, *109*, 3767–3774.
275. Miskowski, V. M.; Nobinger, G. L.; Kliger, D. S.; Hammond, G. S.; Lewis, N. S.; Mann, K. R.; Gray, H. B. "Flash Kinetic Spectroscopic Studies of Dinuclear Rhodium(I) Complexes" *J. Am. Chem. Soc.* **1978**, *100*, 485–488.
276. Erwin, D. K.; Geoffroy, G. L.; Gray, H. B.; Hammond, G. S.; Solomon, E. I.; Troglar, W. C.; Zagars, A. A. "Production of Hydrogen by Ultraviolet Irradiation of $\text{Mo}_2(\text{SO}_4)_4^{4-}$ in Aqueous Sulfuric Acid. Electronic Absorption Spectrum of $\text{K}_3\text{Mo}_2(\text{SO}_4)_4 \cdot 3.5\text{H}_2\text{O}$ at 15 K" *J. Am. Chem. Soc.* **1977**, *99*, 3620–3621.
277. Gotthardt, H.; Hammond, G. S. "Photochemistry of Allene" *Chem. Ber.* **1975**, *108*, 657–663.
278. Leonard, J. E.; Simmons, H. E.; Hammond, G. S. "Apparent Symmetry of Cyclohexane" *J. Am. Chem. Soc.* **1975**, *97*, 5052.
279. Miskowski, V. M.; Twarowski, A. J.; Fleming, R. J.; Hammond, G. S.; Kliger, D. S. "Flash Kinetic Spectroscopy of $\text{Mo}_2(\text{O}_2\text{CCF}_3)_4$ " *Inorg. Chem.* **1978**, *17*, 1056–1059.
280. Van, S.-P.; Hammond, G. S. "Amine Quenching of Aromatic Fluorescence and Fluorescent Exciplexes" *J. Am. Chem. Soc.* **1978**, *100*, 3895.

281. Hammond, G. S. "Prospects for Nonbiological Storage of Solar Energy", Reprinted from Energy and The Chemical Sciences, The 1977 Karcher Symposium.
282. Menger, E. L.; Bhattacharjee, H. R.; Hammond, G. S. "Quenching of the Fluorescence of 8-Methoxypsoralen by Protons" *Photochem. Photobiol.* **1979**, 29, 393.
283. Bhattacharjee, H. R.; Menger, E. L.; Hammond, G. S. "Production of a Fluorescent Conjugate Acid of Methoxypsoralen (8-MOP) and An Unusual Mechanism for Its Nonradiative Decay" *J. Am. Chem. Soc.* **1980**, 102, 1977–1983.
284. Lishan, D. G.; Hammond, G. S.; Yee, W. A. "Amine Quenching of Fluorescence of Phenylated Anthracenes" *J. Phys. Chem.* **1981**, 85, 3435–3440.
285. Poulos, A. T.; Hammond, G. S.; Burton, M. E. "Photo-Induced Electron Transfer from Transition Metal Cations to Excited States of the 10-Methylacridinium Ion", *Photochem. Photobiol.* **1981**, 34, 169.
286. Lishan, D. G.; Reddy, K. V.; Hammond, G. S. "Overtone Vibrational Photochemistry Of Quadricyclane" *J. Phys. Chem.* **1988**, 92, 656.
287. Menger, F. M.; Tsuno, T.; Hammond, G. S. "Cross-Linked Polystyrenes Incorporating Water Pools" *J. Am. Chem. Soc.* **1990**, 112, 1263.
288. Vilalta, P. M.; Hammond, G. S.; Weiss, R. G. "The Influence of Smectic Phases of Perfluorodecyl Decane on the Photoreactions of Perfluoroheptyl Octyl Ketone, An Example of Microscopic Disorder in Highly Ordered Layered Phases" *Photochem. Photobiol.* **1991**, 54, 563.
289. Menger, F. M.; Balachander, N.; van der Linden, E.; Hammond, G. S. "Microscopic Observation of a Polyaphoron Transforming to a Microemulsion" *J. Am. Chem. Soc.* **1991**, 113, 5119.
290. He, Z. Q.; Hammond, G. S.; Weiss, R. G. "New Methods for the Determination of Dopant Site Distribution and Dopant Rates of Diffusion in Low-Density Polyethylene Films with Covalently Attached Anthryl Groups: Fluorescence Quenching by *N,N*-Dialkylanilines in Unstretched and Stretched Films", *Macromolecules* **1992**, 25, 1568.
291. Jenkins, R. M.; Hammond, G. S.; Weiss, R. G. "Dopant Site Sizes and Dopant Rates of Diffusion in Low Density Polyethylene Films with Covalently Attached Pyrenyl Groups. Fluorescence Quenching by a Homologous *N,N*-Dialkylanilines in Unstretched and Stretched Films" *J. Phys. Chem.* **1992**, 96, 496.
292. He, Z. Q.; Hammond, G. S.; Weiss, R. G. "A Simple, Sensitive Method to Measure Diffusion Coefficients of Fluorescing Molecules in Polymer Films. Anisole Diffusion in Low-Density Polyethylene" *Macromolecules* **1992**, 25, 501.
293. Nuez, A.; Hammond, G. S.; Weiss, R. G. "Investigation of the Modes of Solubilization and Norrish II Reactivity of 2- and *sym*-*n*-Alkanones in the Solid Phases of *n*-Heneicosane and Two Homologues" *J. Am. Chem. Soc.* **1992**, 114, 10258.
294. Hammond, G. S.; Ramamurthy, V.; Weiss, R. G. "A Model for the Influence of Organized Media on Photochemical Reactions" *Adv. Photochem.* **1993**, 18.
295. Vilalta, P. M.; Hammond, G. S.; Weiss, R. G. "Determination of the Solubilization Sites Afforded by Smectic Phases of Perfluorodecyldecane [F(CF₂)₁₁OH] to Some Linear Ketones Undergoing the Norrish II Photoreactions" *Langmuir* **1993**, 9, 1910.
296. Weiss, R. G.; Ramamurthy, V.; Hammond, G. S. "Photochemistry in Organized and Confining Media: A Model" *Acc. Chem. Res.* **1993**, 26, 530.
297. Hammond, G. S.; Cui, C.; Naciri, J.; He, Z.; Jenkins, R. M.; La, L.; Ramesh, V.; Weiss, R. G. "Photochemical and Photophysical Approaches to the Characterization of the Shapes, Free Volumes and Accessibility of Guest Sites in Low-Density Polyethylene Films" *Quim. Nova* **1993**, 16, 578.
298. Hammond, G. S.; Naciri, J.; He, Z.; McDaniel, R. F.; Lu, L.; Weiss, R. G. "Fluorescence Techniques to Follow Diffusion in Low-Density Polyethylene Films" *Polym. Mater. Sci. Eng.* **1994**, 71, 77.
299. Hammond, G. S.; Naciri, J.; He, Z. Q.; Constantino, R. M.; Lu, L. "Photophysical Approaches to Characterization of Guest Sites and Measurement of Diffusion Rates to and from Them in Unstretched and Stretched Low-Density Polyethylene Films", ACS Symp. Ser. 598 (Multidimensional Spectroscopy of Polymers) **1995**, 425.
300. Liu, R. S. H.; Hammond, G. S. "The Case of Medium-Dependent Dual Mechanisms for Photoisomerization: One-Bond-Flip and Hula-Twist" *Proc. Natl. Acad. Sci. U.S.A.* **2000**, 97, 11153.
301. Liu, R. S. H.; Hammond, G. S. "Examples of Hula-Twist in Photochemical Cis–Trans Isomerization" *Chem.—Eur. J.* **2001**, 7, 4536–4544.
302. Liu, R. S. H.; Hammond, G. S. "Hula-twist, a Photochemical Reaction Mechanism Involving Simultaneous Configurational and Conformational Isomerization" In *Handbook of Organic Photochemistry and Photobiology*, Second Edition, W. M. Horspool, Editor., CRC Press: London; in press.